

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

TELEPHONE: (303) 740-1980

INTELLECTUAL PROPERTY LAW
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

FACSIMILE: (303) 740-6962

RECEIVED
CENTRAL FAX CENTER

FACSIMILE COVER SHEET

DEC 05 2007

Deliver to: Kimberly McLean-Mayo, USPTO

Art Group: 2187

Facsimile No.: (571) 273-8300

Date: December 5, 2007

From: Brent E. Vecchia, Reg. No. 48,011

Our Docket No.: 42P15529

Number of pages 25 including this sheet.

Application No.: 10/643,826

Filing Date: 8/18/2003

Enclosed are the following documents:

<input type="checkbox"/> Amendment: _____ (_____ pgs)	<input type="checkbox"/> Issue Fee Transmittal
<input checked="" type="checkbox"/> Appeal Brief (21 pgs)	<input type="checkbox"/> Notice of Appeal (in duplicate)
<input type="checkbox"/> Application: _____ (_____ pgs) w/cover & abstract)	<input type="checkbox"/> Petition for: _____
<input type="checkbox"/> Assignment & Cover Sheet (_____ pgs)	<input type="checkbox"/> Request for Continued Examination (RCE)
<input checked="" type="checkbox"/> Certificate of Facsimile _____	<input type="checkbox"/> Reply Brief (_____ pgs)
<input type="checkbox"/> Continued Prosecution Application (CPA)	<input type="checkbox"/> Request & Certification Under 35 USC 122(b)(2)(B)(i)
<input type="checkbox"/> Declaration & POA (_____ pgs)	<input type="checkbox"/> Request to Rescind Previous Nonpublication Request
<input type="checkbox"/> Drawings: _____ sheets, _____ figures	<input type="checkbox"/> Response to Notice of Missing Parts & Formalities Letter
<input type="checkbox"/> Extension of Time: _____	<input type="checkbox"/> Response to Written Opinion (_____ pgs)
<input checked="" type="checkbox"/> Fee Transmittal (in duplicate)	<input type="checkbox"/> Terminal Disclaimer
<input type="checkbox"/> IDS & PTO/SB/08 (_____ pgs)	<input type="checkbox"/> Transmittal of Publication Fee Due
<input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Transmittal Letter

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.84)

I hereby certify that this correspondence is being transmitted by facsimile on the date shown below to the United States Patent and Trademark Office.


 Brent E. Vecchia

12/5/2007

Date

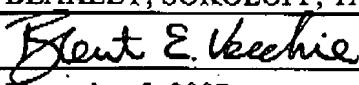
Confidentiality Note: The documents accompanying this facsimile transmission contain information from the law firm of Blakely, Sokoloff, Taylor & Zafman which is confidential or privileged. The information is intended to be for the use of the individual or entity named on this transmission sheet. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of the contents of this faxed information is prohibited. If you have received this facsimile in error, please notify us by telephone immediately so that we can arrange for the retrieval of the original documents at no cost to you.

If you do not receive all the pages, or if there is any difficulty in receiving, please call: (303) 740-1980 and ask for Brent E. Vecchia.

RECEIVED
CENTRAL FAX CENTER

DEC 05 2007

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>		Application No.	10/643,826
		Filing Date	August 18, 2003
		First Named Inventor	Marco Wirasinghe
		Art Unit	2187
		Examiner Name	Kimberly McLean-Mayo
Total Number of Pages in This Submission	25	Attorney Docket Number	42P15529

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> PTO/SB/08 <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Basic Filing Fee <input type="checkbox"/> Declaration/POA <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <div style="border: 1px solid black; padding: 5px; min-height: 50px;">Facsimile Transmittal Sheet</div>
Remarks <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div>		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual name	Brent E. Vecchia, Reg. No. 48,011 BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP	
Signature		
Date	December 5, 2007	

CERTIFICATE OF MAILING/TRANSMISSION			
I hereby certify that this correspondence is being transmitted via facsimile on the date shown below to the United States Patent and Trademark Office.			
Typed or printed name	Brent E. Vecchia		
Signature		Date	December 5, 2007

Based on PTO/SB/21 (10-07) as modified by Blakely, Sokoloff, Taylor & Zafman (wtr) 10/05/2007.
SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

CENTRAL FAX CENTER

DEC 05 2007

FEE TRANSMITTAL for FY 2007

Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT (\$ 510.00)

Complete if Known

Application Number	10/643,826
Filing Date	August 18, 2003
First Named Inventor	Marco Wirasinghe
Examiner Name	Kimberly McLean-Mayo
Art Unit	2187
Attorney Docket No.	42P15529

METHOD OF PAYMENT (check all that apply)

Check Credit card Money Order None Other (please identify): _____

Deposit Account Deposit Account Number: 02-2666 Deposit Account Name: Blakely, Sokoloff, Taylor & Zafman LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

Charge fee(s) indicated below Credit any overpayments

Charge fee(s) indicated below, except for the filing fee Any concurrent or future reply that requires a petition for extension of time should be treated as incorporating an appropriate petition for extension of time and all required fees should be charged.

Charge any additional fee(s) or underpayment of fee(s) during the pendency of this application.

FEE CALCULATION

1. EXTRA CLAIM FEES

Total Claims	33	33*	Extra Claims	Fee from below	Fee Paid
Independent Claims	6	6*	0	50.00	\$0.00
Multiple Dependent			0	210.00	\$0.00

Large Entity	Small Entity	Fee Description
Fee Code (\$)	Fee Code (\$)	
1202 50	2202 25	Claims in excess of 20
1201 210	2201 105	Independent claims in excess of 3
1203 370	2203 195	Multiple Dependent claim, if not paid
1204 810	2204 405	**Reissue independent claims over original patent
1205 810	2205 405	**Reissue claims in excess of 20 and over original patent
SUBTOTAL (1)		(\$ 0.00)

*or number previously paid, if greater. For Reissues, see below

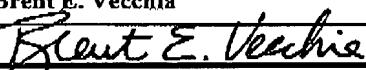
2. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet.	
2053 130	2053 130	Non-English specification	
1251 120	2251 60	Extension for reply within first month	
1252 480	2252 230	Extension for reply within second month	
1253 1,050	2253 525	Extension for reply within third month	
1254 1,840	2254 820	Extension for reply within fourth month	
1255 2,230	2255 1,115	Extension for reply within fifth month	
1401 510	2401 255	Notice of Appeal	
1402 510	2402 255	Filing a brief in support of an appeal	
1403 1,030	2403 515	Request for oral hearing	
1451 1,510	2451 1,510	Petition to institute a public use proceeding	
1460 130	2460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1808 180	1808 180	Submission of Information Disclosure Stmt	
1809 810	1809 405	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810 810	2810 405	For each additional invention to be examined (37 CFR § 1.129(b))	
Other fee (specify)		SUBTOTAL (2)	(\$ 510.00)

SUBMITTED BY

Complete (if applicable)

Name (Print/Type)	Brent E. Vecchia	Registration No. (Attorney/Agent)	48,011	Telephone	(303) 740-1980
Signature				Date	12/05/07

Based on PTO/SB/17 (02-07) as modified by Blakely, Sokoloff, Taylor & Zafman (wir) 02/26/2007.
SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

RECEIVED
CENTRAL FAX CENTER

DEC 05 2007

FEE TRANSMITTAL
for FY 2007

Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT (\$ 510.00)

Complete if Known	
Application Number	10/643,826
Filing Date	August 18, 2003
First Named Inventor	Marco Wirasinghe
Examiner Name	Kimberly McLean-Mayo
Art Unit	2187
Attorney Docket No.	42P15529

METHOD OF PAYMENT (check all that apply)

Check Credit card Money Order None Other (please identify): _____

Deposit Account Deposit Account Number: 02-2666 Deposit Account Name: Blakely, Sokoloff, Taylor & Zafman LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

Charge fee(s) indicated below Credit any overpayments

Charge fee(s) indicated below, except for the filing fee Any concurrent or future reply that requires a petition for extension of time should be treated as incorporating an appropriate petition for extension of time and all required fees should be charged.

Charge any additional fee(s) or underpayment of fee(s) during the pendency of this application.

FEE CALCULATION

1. EXTRA CLAIM FEES

Total Claims:	33	33* =	0	X	Fee from below	Fee Paid
Independent Claims	6	6* =	0	X	210.00	\$0.00
Multiple Dependent						

Large Entity

Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
1202	50	2202	25	Claims in excess of 20
1201	210	2201	105	Independent claims in excess of 3
1203	370	2203	185	Multiple Dependent claim, if not paid
1204	810	2204	405	**Reissue independent claims over original patent
1205	810	2205	405	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (1) (\$ 0.00)

*or number previously paid, if greater. For Reissues, see below

2. ADDITIONAL FEES

Large Entity

Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	80	2052	25	Surcharge - late provisional filing fee or cover sheet	
2053	130	2053	130	Non-English specification	
1251	120	2251	60	Extension for reply within first month	
1252	460	2252	230	Extension for reply within second month	
1253	1,050	2253	525	Extension for reply within third month	
1254	1,840	2254	820	Extension for reply within fourth month	
1255	2,230	2255	1,115	Extension for reply within fifth month	
1401	510	2401	255	Notice of Appeal	
1402	510	2402	255	Filing a brief in support of an appeal	
1403	1,030	2403	515	Request for oral hearing	
1431	1,510	2451	1,510	Petition to institute a public use proceeding	
1480	130	2480	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1808	180	1808	180	Submission of Information Disclosure Stmt	
1809	810	1809	405	Filing a submission after final rejection (37 CFR § 1.129(e))	
1810	810	2810	405	For each additional invention to be examined (37 CFR § 1.129(b))	

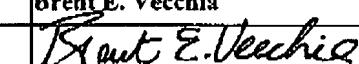
Other fee (specify)

SUBTOTAL (2)

(\$ 510.00)

SUBMITTED BY

Complete (if applicable)

Name (Print/Type)	Brent E. Vecchia	Registration No. (Attorney/Agent)	48,011	Telephone	(303) 740-1980
Signature				Date	12/05/07

Based on PTO/SB/17 (02-07) as modified by Blakely, Sokoloff, Taylor & Zafman (wlr) 02/26/2007.
SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

RECEIVED
CENTRAL FAX CENTER

DEC 05 2007

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application. No. : 10/643,826	Confirmation No. : 7008
1 st Named Inventor : Marco Wirasinghe	Art Unit : 2187
Filed : August 18, 2003	Examiner : Kimberly N. McLean Mayo
Docket No. : 42P15529	Customer No. : 8791

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF
IN SUPPORT OF APPELLANT'S APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

This brief is in furtherance of the Notice of Appeal, filed in the above-captioned case on 10/5/2007. Applicants (hereafter "Appellants") hereby submit this Brief (37 C.F.R. § 41.37). The fees required under § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying Transmittal of Appeal Brief. Appellants respectfully request consideration of this appeal by the Board of Patent Appeals and Interferences for allowance of the above-captioned patent application.

An oral hearing is not desired.

12/06/2007 PCHOMP 00000031 022666 10643826
01 FC:1402 510.00 DA

Docket No. 42P15529

-1-

App. No.: 10/643,826

TABLE OF CONTENTS

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37c(1)):

I.	REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i)).....	3
II.	RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))	3
III.	STATUS OF THE CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))	3
IV.	STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))	4
V.	SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v)) ..	5
VI.	GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))	8
VII.	ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii)).....	9
VIII.	CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))	16
IX.	EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix)).....	20
X.	RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x)).....	21

Page **15** of this brief bears the practitioner's signature.

I. REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is Intel Corporation of 2200 Mission College Boulevard, Santa Clara, California, 95052, to whom the invention is assigned.

II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))

With respect to other appeals or interferences that will directly affect, or be affected by, or have a bearing on the Board's decision in this appeal, to the best of Appellant's knowledge, there are no such appeals or interferences.

III. STATUS OF THE CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))

The status of the claims in this application are:

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are currently pending in the application.

B. STATUS OF ALL THE CLAIMS

1. Claims cancelled: 5-19, 22, 25-29, 31-32 and 35.
2. Claims withdrawn from consideration but not cancelled: None.
3. Claims pending: 1-4, 20-21, 23-24, 30, 33-34 and 36.
4. Claims allowed: None.
5. Claims rejected: 1-4, 20-21, 23-24, 30, 33-34 and 36.

C. CLAIMS ON APPEAL

Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are on appeal.

IV. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

A response was not submitted in response to the Final Office Action mailed on June 26, 2007. A response was submitted on April 5, 2007 in response to the Office Action mailed January 5, 2007. The response included amendments to the claims. As understood by Appellant, the Examiner entered the amendments. A copy of all claims on appeal is attached hereto as an appendix of claims

V. SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

Embodiments of the invention pertain to memory optimization for a computer system having a hibernation mode. See for example the Title.

Independent claim 1 pertains to a method, according to a first embodiment of the invention. See for example FIG. 2, paragraphs [0012]-[0013], and original claim 1. The method includes requesting that an operating system place a mobile computer system (see e.g., paragraph [0008]) in a hibernation mode. See for example operation 200 in FIG. 2 and paragraph [0012]. The method also includes gathering a state of the mobile computer system. See for example operation 210 in FIG. 2 and paragraph [0012]. The state includes contents of a central processing unit of the mobile computer system and contents of a main memory of the mobile computer system. See for example paragraphs [0006] and [0012]. The method also includes storing the state to a first non-volatile memory cache of the mobile computer system. See for example operation 220 in FIG. 2 and paragraphs [0012] and [0009]. The first non-volatile memory cache has a storage capacity between 50-2000 megabytes. See for example paragraph [0011]. The method also includes storing the state to a hard disk drive of the mobile computer system, which is coupled with the first non-volatile memory cache (see e.g., FIG. 1A and paragraph [0008]), via a transparent write-through process. See for example paragraph [0009] and FIG. 1B. The method also includes putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode. See for example operation 230 in FIG. 2 and paragraphs [0012], [0003], and [0006]-[0007]. The method also includes waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive. See e.g., paragraphs [0007] and [0013].

Independent claim 20 pertains to a mobile (see e.g., paragraph [0008]) computer system, according to a second embodiment of the invention. See for example FIG. 1A and paragraphs [0008]-[0009]. The mobile computer system includes a central processing unit (CPU). See for

example CPU 110 in FIG. 1A. The mobile computer system also includes a main memory coupled to the CPU. See for example main memory 120 in FIG. 1A. The main memory is to store data to be manipulated by the CPU. See for example paragraph [0002]. The mobile computer system also includes a first non-volatile memory cache of the mobile computer system coupled to the main memory. See for example Level 3 cache 150 in FIG. 1A. The data is to be stored to the first non-volatile memory cache if the mobile computer system is placed in a hibernation mode. See for example paragraphs [0007], [0010], and [0012]. The first non-volatile memory cache has a storage capacity between 50-2000 megabytes. See for example paragraph [0011]. The mobile computer system also includes a hard disk drive of the mobile computer system coupled to the first non-volatile memory cache. See for example hard disk drive 160 in FIG. 1A. The hard disk drive has a greater storage capacity than the first non-volatile memory cache. See for example paragraph [0008] and original claim 20. The data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode. See for example paragraphs [0007], [0010], and [0013].

Independent claim 30 pertains to an article, according to a third embodiment of the invention. The article includes a machine readable medium having a plurality of machine readable instructions that when executed by a machine cause the machine to perform operations. See for example paragraphs [0020] and [0018] and original claim 30. One operation is to write contents of a central processing unit (CPU) to a non-volatile memory cache of the machine that has a same address configuration as a hard disk drive (see e.g., paragraph [0009]) of the machine prior to the machine being placed in a hibernation mode. See for example operation 220 in FIG. 2, paragraph [0012]. Another operation is to write data from a random access memory (see e.g., paragraph [0002]) to the non-volatile memory cache of the machine prior to the machine being placed in the hibernation mode. See for example operation 220 in FIG. 2, paragraph [0012]. Another operation is to write the contents of the CPU to the hard disk drive of the machine using a transparent write-through process. See for example FIG. 1B and paragraphs [0009]-[0010].

Another operation is to initiate a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode. See for example paragraphs [0007], [0010], and [0013].

VI. **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))**

A. **Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2004/0153694 by Nicholson et al. (hereinafter “Nicholson”) in view of U.S. Patent No. 5,809,223 to Lee (hereinafter “Lee”).**

VII. ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii))**A. CLAIMS 1-4, 20-21, 23-24, 30, 33-34 AND 36 ARE REJECTED UNDER 35 U.S.C. § 103(A) OVER U.S. PATENT APPLICATION PUBLICATION NO. 2004/0153694 BY NICHOLSON ET AL. (HEREINAFTER "NICHOLSON") IN VIEW OF U.S. PATENT NO. 5,809,223 TO LEE (HEREINAFTER "LEE").**

Appellants respectfully submit that the present claims are allowable over Nicholson and Lee.

CLAIMS 1-4 and 34

Claim 1 pertains to a method comprising:

"requesting that an operating system place a mobile computer system in a hibernation mode;

gathering a state of the mobile computer system, wherein the state includes contents of a central processing unit of the mobile computer system and contents of a main memory of the mobile computer system;

storing the state to a first non-volatile memory cache of the mobile computer system, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

storing the state to a hard disk drive of the mobile computer system, which is coupled with the first non-volatile memory cache, via a transparent write-through process;

putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode; and

waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive".

Nicholson and Lee do not disclose or render obvious these limitations. In particular, as understood by Appellants, Nicholson and Lee do not disclose or render obvious the claimed storing the state to a non-volatile memory cache of a mobile computer system, and the claimed storing the state to a hard disk drive of the mobile computer system through a transparent write-through process, and the claimed loading the state from the non-volatile memory cache instead

of from the hard disk drive upon waking the mobile computer system from the hibernation mode, in combination with the other claim limitations.

Nicholson pertains to reliability of **diskless** (emphasis added) **network-bootable** (emphasis added) computers using a non-volatile memory cache. See for example the Title. As discussed in the Abstract:

"A method and apparatus is provided that provides a reliable diskless (emphasis added) network-bootable computers using a local non-volatile memory (NVM) cache. The NVM cache is used by the computer when the network is temporarily unavailable or slow. The cache is later synchronized with a remote boot server having remote storage volumes (emphasis added) when network conditions improve. It is determined if data is to be stored in the NVM cache or the remote storage volume. Data sent to the remote storage volume is transactionally written and the data is cached in the NVM cache if a network outage is occurring or a transaction complete message has not been received. The data stored in the NVM cache allows the user to continue operating during network outages and the computer can be cold-booted using the data in the NVM cache if the network is unavailable".

Accordingly, Nicholson pertains to diskless computers in which a **hard disk** is desirably omitted in favor of a **remote storage volume** on a remote boot server. In contrast, claim 1 specifically recites both a **non-volatile memory cache** and a **hard disk drive**.

As understood by Appellants, the Examiner has asserted that it would be obvious to modify Nicholson to include a hard disk drive based on Lee in order to meet the claimed limitations of a computer having both a **non-volatile memory cache** and a **hard disk drive**. Appellants respectfully disagree and submit that modifying Nicholson based on Lee to include both the NVM cache and a hard disk drive is inappropriate.

Nicholson specifically discusses the many problems associated with including hard disks in personal computers. For example, as discussed in paragraph [0002]:

"Hard disks are an integral component of current personal computers (PCs). Current PC architectures rely on an extremely tight integration and physical co-location of the primary system hard disk with the other PC components in order to function properly.

*This underlying architectural requirement of PCs is a source of **multitudinous problems, inefficiencies and limitations** (emphasis added). For example, the architecture forces users to store and administer all important user "state" (documents, files, settings, certificates, and so on) locally on the hard drive in a user's desktop PC"*

Accordingly, Nicholson discusses the **multitudinous problems** associated with hard disks. Appellants therefore respectfully submit that Nicholson teaches away from the Examiner's suggestion to modify Nicholson to include a hard disk as discussed in Lee.

Furthermore, as understood by Appellants, a major purpose of the non-volatile memory (NVM) cache discussed in Nicholson is to provide improved reliability when there is no local hard disk drive and when the network may be temporarily unavailable or slow. The Examiner has failed to provide sufficient reasoning why the diskless network-bootable computers in Nicholson would be modified to include both the non-volatile memory cache and a hard disk drive. Without having both the **non-volatile memory cache** and the **hard disk drive**, the limitations of claim 1 are not met.

Still further, claim 1 recites "*waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive*". However, as discussed in paragraph [0054] of Nicholson, "*The computer system normally boots from the remote storage volume 182 (step 800)*", except in the event of network unavailability or power failure.

Accordingly, claim 1 and its dependent claims are believed to be allowable over Nicholson and Lee.

CLAIMS 20-21, 23-24 AND 36

As amended, claim 20 pertains to a mobile computer system comprising:

"a central processing unit (CPU);

a main memory coupled to the CPU, wherein the main memory is to store data to be manipulated by the CPU;

a first non-volatile memory cache of the mobile computer system coupled to the main memory, wherein the data is to be stored to the first non-volatile memory cache if the mobile computer system is placed in a hibernation mode, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

a hard disk drive of the mobile computer system coupled to the first non-volatile memory cache, wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache,

wherein the data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode".

Nicholson and Lee do not disclose or render obvious these limitations. As discussed above, modifying Nicholson based on Lee to include both the NVM cache and a hard disk drive is inappropriate. Accordingly, Nicholson and Lee do not disclose or render obvious the claimed mobile computer system having the claimed **first non-volatile memory cache** and the claimed **hard disk drive, wherein the data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode**, in combination with the other claim limitations.

Accordingly, claim 20 and its dependent claims are believed to be allowable over Nicholson and Lee.

CLAIMS 30 AND 33

As amended, claim 30 recites in part:

"write contents of a central processing unit (CPU) to a non-volatile memory cache of the machine that has a same address configuration as a hard disk drive of the machine prior to the machine being placed in a hibernation mode;

write data from a random access memory to the non-volatile memory cache of the machine prior to the machine being placed in the hibernation mode;

write the contents of the CPU to the hard disk drive of the machine using a transparent write-through process; and

initiate a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode".

Nicholson and Lee do not disclose or render obvious these limitations. As discussed above, modifying Nicholson based on Lee to include both the NVM cache and a hard disk drive is inappropriate.

Furthermore, there is no disclosure or suggestion in Nicholson or Lee that a non-volatile memory cache of the machine that has a **same address configuration** as a hard disk drive of the machine and using a transparent write-through process. As understood by Appellants, there simply is no mention of these limitations or suggestion that these limitations would be desirable.

Accordingly, Nicholson and Lee do not disclose or render obvious the claimed writing of the contents of the CPU to the **non-volatile memory cache** that has a **same address configuration** as the **hard disk drive** prior to the machine being placed in a hibernation mode, and the claimed writing the contents of the CPU to the hard disk drive using a **transparent write-through process**, and the claimed initiating a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode, in combination with the other claim limitations.

Accordingly, claim 30 and its dependent claims are believed to be allowable over Nicholson and Lee.

CLAIMS 34 AND 36

Claim 34 recites "*wherein the hard disk drive has the same address configuration as the first non-volatile memory*". Claim 36 recites "*wherein the first non-volatile memory cache has a same address configuration as the hard disk drive*".

Nicholson and Lee do not disclose or render obvious these limitations. As understood by Appellants, there simply is no mention of these limitations or suggestion that these limitations would be desirable.

CONCLUSION

Based on the foregoing, Appellants request that the Board overturn the rejection of all pending claims and hold that all of the claims of the present application are allowable.

Appellants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

Please charge any shortages and credit any overpayment to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 12/5/07

By Brent E. Vecchia
Brent E. Vecchia, Reg. No. 48,011
Tel.: (303) 740-1980 (Mountain Time)

1279 Oakmead Parkway
Sunnyvale, California 94085-4040

VIII. CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))

The text of the claims involved in the appeal are:

1. (Previously Presented) A method, comprising:

requesting that an operating system place a mobile computer system in a hibernation mode;

gathering a state of the mobile computer system, wherein the state includes contents of a central processing unit of the mobile computer system and contents of a main memory of the mobile computer system;

storing the state to a first non-volatile memory cache of the mobile computer system, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

storing the state to a hard disk drive of the mobile computer system, which is coupled with the first non-volatile memory cache, via a transparent write-through process; putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode; and

waking the mobile computer system from the hibernation mode including loading the state from the first non-volatile memory cache instead of from the hard disk drive.

2. (Previously Presented) The method of claim 1, wherein the state is gathered by the operating system.

3. (Previously Presented) The method of claim 1, wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache.

4. (Previously Presented) The method of claim 3, wherein the first non-volatile memory cache is logically coupled to the hard disk drive.

Claims 5-19 (Cancelled)

20. (Previously Presented) A mobile computer system, comprising:

a central processing unit (CPU);

a main memory coupled to the CPU, wherein the main memory is to store data to be manipulated by the CPU;

a first non-volatile memory cache of the mobile computer system coupled to the main memory, wherein the data is to be stored to the first non-volatile memory cache if the mobile computer system is placed in a hibernation mode, wherein the first non-volatile memory cache has a storage capacity between 50-2000 megabytes; and

a hard disk drive of the mobile computer system coupled to the first non-volatile memory cache, wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache,

wherein the data is to be restored from the first non-volatile memory cache instead of from the hard disk drive when the system is awoken from the hibernation mode.

21. (Previously Presented) The system of claim 20, wherein a state of the CPU is to be stored to the first non-volatile memory cache if the system is placed in the hibernation mode.

Claim 22 (Cancelled)

23. (Previously Presented) The system of claim 21, wherein the data and the state of the CPU is to be stored to the hard disk drive through a transparent write-through process.

24. (Previously Presented) The system of claim 20, further comprising:

a driver coupled to the main memory and the first non-volatile memory cache, wherein the driver is to write the data to the first non-volatile memory cache.

Claims 25-29 (Cancelled)

30. (Previously Presented) An article comprising a machine readable medium having a plurality of machine readable instructions that when executed by a machine cause the machine to:

write contents of a central processing unit (CPU) to a non-volatile memory cache of the machine that has a same address configuration as a hard disk drive of the machine prior to the machine being placed in a hibernation mode;

write data from a random access memory to the non-volatile memory cache of the machine prior to the machine being placed in the hibernation mode;

write the contents of the CPU to the hard disk drive of the machine using a transparent write-through process; and

initiate a load sequence from the non-volatile memory cache rather than from the hard disk drive after being awoken from the hibernation mode.

Claims 31-32 (Cancelled)

33. (Previously Presented) The article of claim 30, further comprising instructions that when executed cause the machine to:

restore the CPU contents.

34. (Previously Presented) The method of claim 1, wherein the hard disk drive has the same address configuration as the first non-volatile memory.

35. (Cancelled)

36. (New) The mobile computer system of claim 20, wherein the first non-volatile memory cache has a same address configuration as the hard disk drive.

IX. EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix))

To the best of Appellant's knowledge, no evidence has been submitted pursuant to 37 CFR Sections 1.130, 1.131, or 1.132.

Docket No. 42P15529

App. No.: 10/643,826

-2D-

X. RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x))

(To the best of Appellant's knowledge, there are no related appeals or interferences.)

Docket No. 42P15529

App. No.: 10/643,826

- 21 -